

KF is a simple, flexible “O” ring vacuum flange system available up to 50 mm. It is also well known as NW system.

The KF or NW system is defined by Pneurop 6606 (1981), ISO1609 (1986) and DIN 28403.

All Vaqtec components are interchangeable with all assemblies made in compliance to above standard; all welded assembly is helium leak checked and can be certified to have a leak rate of less than $1 \cdot 10^{-9}$ mbar^l/s. An assembly consists of two identical sexless, 360° rotatable, smooth-faced flanges, a quick acting enclosing rim-clamp and a center ring which support an elastomer “O”ring to align the flanges and prevent the “O”ring from collapsing. The quick acting clamp compresses the self-centering, sealing ring between the two flanges.

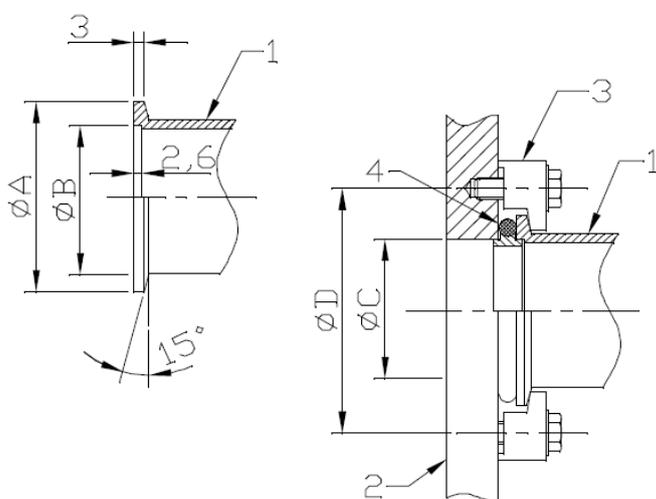
The KF sealing mechanism works from atmosphere to the low 10^{-7} mbar, within the temperature range -20°C. to 200°C depending

on the construction and “O” ring material. Lower pressure (10^{-8} mbar) can be reached in systems where Viton “O”rings are baked to 180°C.

Stainless steel flanged components are used for high temperature and corrosion conditions and aluminium or brass for more general applications.

Clamps are made from polymeric materials, cast aluminium, machined aluminium, and stainless steel, with two or three hinged segments and a variety of closing mechanism including thumbscrews, over-center levers, threaded rods or nuts, or set screw. The most popular are either of the first two since no tools are required. The common elastomer “O”ring used in KF flanges are, depending on temperature and the composition of the gas: Buna-N, fluorocarbon (as Viton A), and silicone rubber. Chemraz or Kalrez having the best high temperature performances can also be used but are very expensive.

Typical Operating Temperature	(extreme conditions)	
Buna-N	-20°C. to +80°C.	-40°C. to +120°C.
Viton A	-20°C. to +180°C.	-40°C. to +200°C.
Silicon	-30°C. to +200°C.	-40°C. to +300°C.



	A	B	C	D	Number of claw grips
DN 10 KF	30	12,2	12,2	45	4
DN 16 KF	30	17,2	17,2	45	4
DN 20 KF	40	22,2	22,2	55	4
DN 25 KF	40	26,2	26,2	55	4
DN 32 KF	55	34,2	34,2	71	4
DN 40 KF	55	41,2	41,2	71	4
DN 50 KF	75	52,2	52,2	91	4

- 1 Small flange port
- 2 Housing panel with thread
- 3 Claw grip
- 4 Center ring